

**REMARKS**

In the Office Action, the Examiner rejected claims 1-22. By this paper, the Applicants hereby cancel claim 5. Upon entry of the amendments, claims 1-4 and 6-22 will remain pending in the present patent application. Reconsideration and allowance of all pending claims are requested.

**Oath/Declaration**

In the Office Action, the Examiner stated “[t]he oath or declaration is defective because: It does not identify the citizenship of each inventor.” Office Action, page 2. The Examiner further requested a new oath or declaration identifying the application by application number and filing date. In response, the Applicants will file a new declaration as soon as possible.

**Rejections Under 35 U.S.C. § 112**

Claim 5 was rejected under 35 U.S.C 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. Although the Applicants respectfully traverse this rejection, the Applicants hereby cancel claim 5 to expedite allowance of the present application. Accordingly, Applicants request the Examiner to remove the rejection under 35 U.S.C 112, second paragraph.

**Rejections Under 35 U.S.C. § 101**

Claim 5 was rejected under 35 U.S.C. 101 because the claimed invention was directed to non-statutory subject matter. Again, although the Applicants respectfully traverse this rejection, the Applicants hereby cancel claim 5 to expedite allowance of the present application. Accordingly, Applicants request the Examiner to remove the rejection under 35 U.S.C 101.

**Rejections Under 35 U.S.C. § 103(a)**

Claims 1-22 were rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent Number 6,792,399 B1 (hereinafter Phillips) in view of EP Patent Number 1102187 A2 (hereinafter Henly). The Applicants respectfully traverse this rejection.

***Legal Precedent***

First, the pending claims must be given an interpretation that is reasonable and consistent with the *specification*. See *In re Prater*, 415 F.2d 1393, 1404-05, 162 U.S.P.Q. 541, 550-51 (C.C.P.A. 1969) (emphasis added); see also *In re Morris*, 127 F.3d 1048, 1054-55, 44 U.S.P.Q.2d 1023, 1027-28 (Fed. Cir. 1997); see also M.P.E.P. §§ 608.01(o) and 2111. Indeed, the specification is “the primary basis for construing the claims.” See *Phillips v. AWH Corp.*, No. 03-1269, -1286, at 13-16 (Fed. Cir. July 12, 2005) (*en banc*). One should rely *heavily* on the written description for guidance as to the meaning of the claims. See *id.*

Second, interpretation of the claims must also be consistent with the interpretation that *one of ordinary skill in the art* would reach. See *In re Cortright*, 165 F.3d 1353, 1359, 49 U.S.P.Q.2d 1464, 1468 (Fed. Cir. 1999); M.P.E.P. § 2111. “The inquiry into how a person of ordinary skill in the art understands a claim term provides an objective baseline from which to begin claim interpretation.” See *Collegenet, Inc. v. ApplyYourself, Inc.*, No. 04-1202, -1222, 1251, at 8-9 (Fed. Cir. August 2, 2005) (quoting *Phillips*, No. 03-1269, -1286, at 16). The Federal Circuit has made clear that derivation of a claim term must be based on “usage in the ordinary and accustomed meaning of the words amongst artisans of ordinary skill in the relevant art.” See *id.*

Third, the burden of establishing a *prima facie* case of obviousness falls on the Examiner. *Ex parte Wolters and Kuypers*, 214 U.S.P.Q. 735 (PTO Bd. App. 1979). Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention absent some teaching or suggestion supporting the combination.

*ACS Hospital Systems, Inc. v. Montefiore Hospital*, 732 F.2d 1572, 1577, 221 U.S.P.Q. 929, 933 (Fed. Cir. 1984). The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 U.S.P.Q.2d. 1430 (Fed. Cir. 1990). Accordingly, to establish a *prima facie* case, the Examiner must not only show that the combination includes *all* of the claimed elements, but also a convincing line of reason as to why one of ordinary skill in the art would have found the claimed invention to have been obvious in light of the teachings of the references. *Ex parte Clapp*, 227 U.S.P.Q. 972 (B.P.A.I. 1985). The Examiner must provide objective evidence, rather than subjective belief and unknown authority, of the requisite motivation or suggestion to combine or modify the cited references. *In re Lee*, 61 U.S.P.Q.2d. 1430 (Fed. Cir. 2002). Moreover, a statement that the proposed modification would have been “well within the ordinary skill of the art” based on individual knowledge of the claimed elements cannot be relied upon to establish a *prima facie* case of obviousness without some *objective reason to combine* the teachings of the references. *Ex parte Levengood*, 28 U.S.P.Q.2d 1300 (Bd. Pat. App. & Inter. 1993); *In re Kotzab*, 217 F.3d 1365, 1371, 55 U.S.P.Q.2d. 1313, 1318 (Fed. Cir. 2000); *Al-Site Corp. v. VSI Int’l Inc.*, 174 F.3d 1308, 50 U.S.P.Q.2d. 1161 (Fed. Cir. 1999).

Fourth, when prior art references require a selected combination to render obvious a subsequent invention, there must be some reason for the combination other than the hindsight gained from the invention itself, i.e., something in the prior art as a whole must suggest the desirability, and thus the obviousness, of making the combination. *Uniroyal Inc. v. Rudkin-Wiley Corp.*, 837 F.2d 1044, 5 U.S.P.Q.2d 1434 (Fed. Cir. 1988). One cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention. *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988).

Fifth, it is improper to combine references where the references teach away from their combination. *In re Grasselli*, 713 F.2d 731, 743, 218 U.S.P.Q. 769, 779 (Fed. Cir. 1983); M.P.E.P. § 2145. Moreover, if the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. *In re Ratti*, 270 F.2d 810, 123 U.S.P.Q. 349 (CCPA 1959); *see* M.P.E.P. § 2143.01(VI). If the proposed modification or combination would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984); *see* M.P.E.P. § 2143.01(V).

Sixth, non-analogous art cannot properly be pertinent prior art under 35 U.S.C. § 103. *In re Pagliaro*, 210 U.S.P.Q. 888, 892 (C.C.P.A. 1981). For the teachings of a reference to be prior art under 35 U.S.C. § 103, there must be some basis for concluding that the reference would have been considered by one skilled in the particular art working on the particular problem with which the invention pertains. *In re Horne*, 203 U.S.P.Q. 969, 971 (C.C.P.A. 1979). The determination of whether a reference is from a non-analogous art is set forth in a two-step test given in *Union Carbide Corp. v. American Can Co.*, 724 F.2d 1567, 220 U.S.P.Q. 584 (Fed. Cir. 1984). In *Union Carbide*, the court found that the first determination was whether “the reference is within the field of the inventor’s endeavor.” If it is not, one must proceed to the second step “to determine whether the reference is reasonably pertinent to the particular problem with which the inventor was involved.” In regard to the second step, *Bott v. Fourstar Corp.*, 218 U.S.P.Q. 358 (E.D. Mich. 1983) determined that “analogous art is that field of art which a person of ordinary skill in the art would have been apt to refer in attempting to solve the problem solved by a proposed invention.” “To be relevant the area of art should be where one of ordinary skill in the art would be aware that similar problems exist.” *Id.*

***The cited references, taken alone or in hypothetical combination, fail to teach or suggest all of the features of the independent claims 1, 11 and 17 and their dependent claims.***

Applicants respectfully submit that the Phillips and Henly references, taken alone or in hypothetical combination, do not teach or suggest “database ... related to ... crude or crude blend” and “at least one predictive performance and/or risk assessment model designed to optimize or improve a refining process,” as recited in independent claims 1, 11 and 17.

The Phillips reference discloses a technique for forecasting the values of variables, such as the price of a share of stock or commodity. *See* Phillips, col. 1, lines 8-12. In particular, the Phillips reference discloses a technique for providing combination forecasts (obtained from a group of forecasters) for a value of a financial and/or economic measure that represents an aspect of an existing economic environment. *See* Phillips, Abstract, Summary. However, such a technique for providing combination forecasts is not equivalent or even similar to a technique for assessing and optimizing crude selection as disclosed by the present patent application. Applicants have carefully reviewed the sections (column 8, lines 12-21 and 31-41 and column 9, lines 34-44 and column 56, lines 47-56) referenced by the Examiner and submit that these sections fail to disclose the claim features recited above, among others. Given that the Phillips reference does not even relate to a *crude or crude blends*, the Phillips reference clearly fails to disclose a “database ... related to ... crude or crude blend,” as recited in independent claims 1, 11 and 17. Similarly, given that the Phillips reference does not relate to a *refining* process, the Phillips reference clearly fails to disclose “at least one predictive performance and/or risk assessment model designed to optimize or improve a refining process,” as recited in independent claims 1, 11 and 17.

The Henly reference fails to obviate the deficiencies of the Phillips reference. The Henly reference discloses a process for the prediction and the optimization of the output

of a plant producing products from incoming materials. Applicants have carefully reviewed the sections (paragraph 0004 and 0012) referenced by the Examiner and submit that these sections fail to disclose crude selection and blend as suggested by the Examiner. Instead these sections relate to a method for predicting a characteristic of a product to be prepared by a processing plant.

For at least these reasons among others, the Applicants respectfully request withdrawal of the rejections under 35 U.S.C. § 103.

***Improper Combination - Lack of Objective Evidence of Reasons to Modify/Combine***

The Examiner has not shown the requisite motivation or suggestion to modify or combine the cited references to reach the present claims. The Examiner must provide objective evidence, rather than subjective belief and unknown authority, of the requisite motivation or suggestion to combine or modify the cited references. *In re Lee*, 61 U.S.P.Q.2d. 1430 (Fed. Cir. 2002). In the present rejection, the Examiner combined the cited references based on the *conclusory and subjective statement* that “[i]t would have been obvious to one of ordinary skill in the art of data processing at the time of the present invention to combine the teachings of cited references because Henly’s prediction of properties of and optimization of plant’s output of products in combination with the prediction models and risk analyzer of Philips would result in accurate prediction of the crude oil blend to be used (paragraph 0004 and 0012, Henly).” Office Action, page 4. The paragraphs cited by the Examiner clearly fail to provide any suggestion or motivation to combine the reference. For example, paragraph 0004 of the Henly reference simply describes the field of the invention as relating to “the accurate prediction of final properties of a blended fuel utilizing non-linear optimization and property prediction.” Paragraph 0012 of the Henly reference provides a similar disclosure in the summary of the invention section. However, none of these passages provides any suggestion or motivation to combine the method of predicting and optimizing fuel production of the Henly reference with the “techniques for forecasting the values of variables, such as the

price of a share of stock or a commodity,” as disclosed by the Phillips reference. Phillips, col. 1, lines 8-10 (emphasis added). Accordingly, Applicants respectfully request the Examiner to produce *objective evidence* of the requisite motivation or suggestion to combine the cited references, or remove the foregoing rejection under 35 U.S.C. § 103.

***Request Removal of Non-Analogous Art***

Based on the foregoing two-part non-analogous art test, the Phillips reference does not qualify as analogous art. In regard to the first step of the *Bott* test, the Phillips reference is directed to developing a technique for predicting a value of a financial and/or economic measure that represents an aspect of an existing economic environment. Therefore, the Phillips reference is not in the field of the Applicants endeavor.

In regard to the second step of the *Bott* test, the Phillips reference is not pertinent to the problem addressed by the present patent application which is directed to a technique for refining crude oil and assessing and optimizing crude selection to assist oil refineries in assessing and selecting crudes and crude blends that are not of optimum quality. Thus, there is no evidence whatsoever that similar problems exist in these disparate fields of art. Accordingly, the Phillips reference is believed to be non-analogous art. Applicants respectfully request the removal of the Phillips reference from consideration.

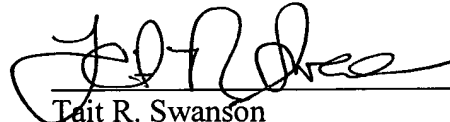
For at least these reasons among others, the Applicants respectfully request withdrawal of the rejections under 35 U.S.C. § 103.

**Conclusion**

In view of the remarks and amendments set forth above, Applicants respectfully request allowance of the pending claims. If the Examiner believes that a telephonic interview will help speed this application toward issuance, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,

Date: June 2, 2006

A handwritten signature in black ink, appearing to read 'Tait R. Swanson', written over a horizontal line.

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